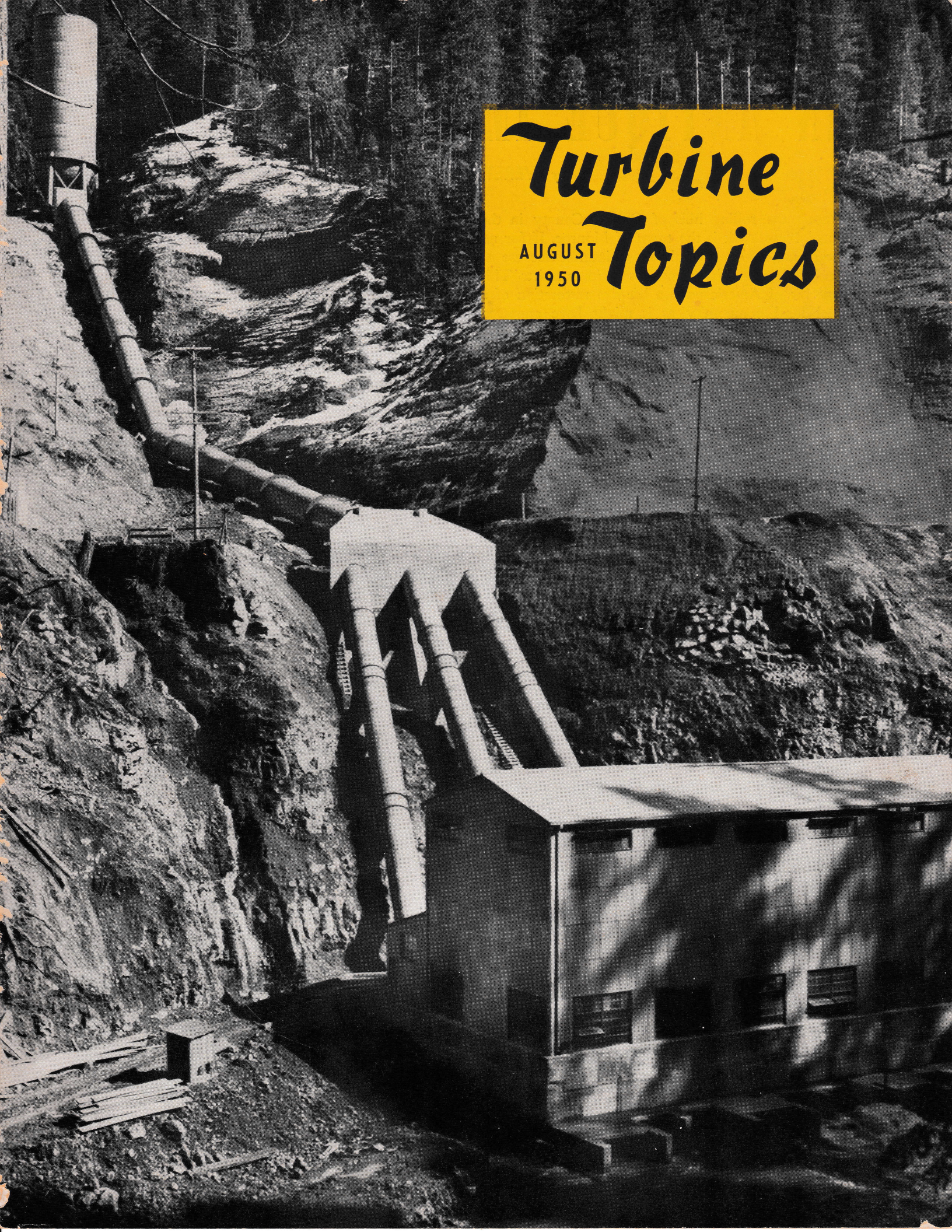
Turbine Topics

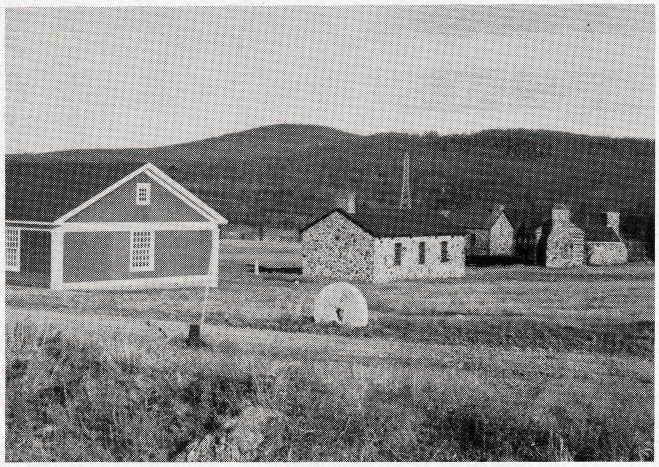
AUGUST 1950



AN ANTIQUE IMPULSE TURBINE

By EVERETT F. BRITZ, Jr.

Among the rolling hills of Orange County in the State of New York is the town of Monroe. If for no other reason, Monroe would be of interest because of the colonial village that now rises on its outskirts. This unique bit of Americana is a life-size restoration of a typical local community as it might have appeared during the mid-years of the last century. The buildings in the village are complete in every detail. The reconstructed school is outfitted with the original desks and primary readers while the artisans' shops are equipped with old tools peculiar to the respective callings.

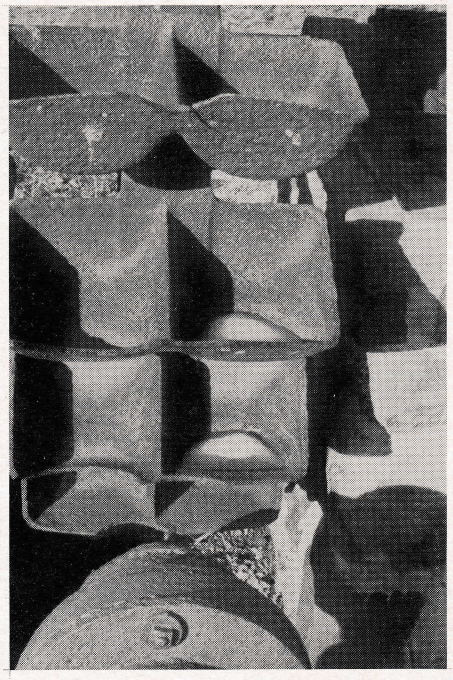


A view within the village oval. The faithful detail of the building restoration can be seen here.

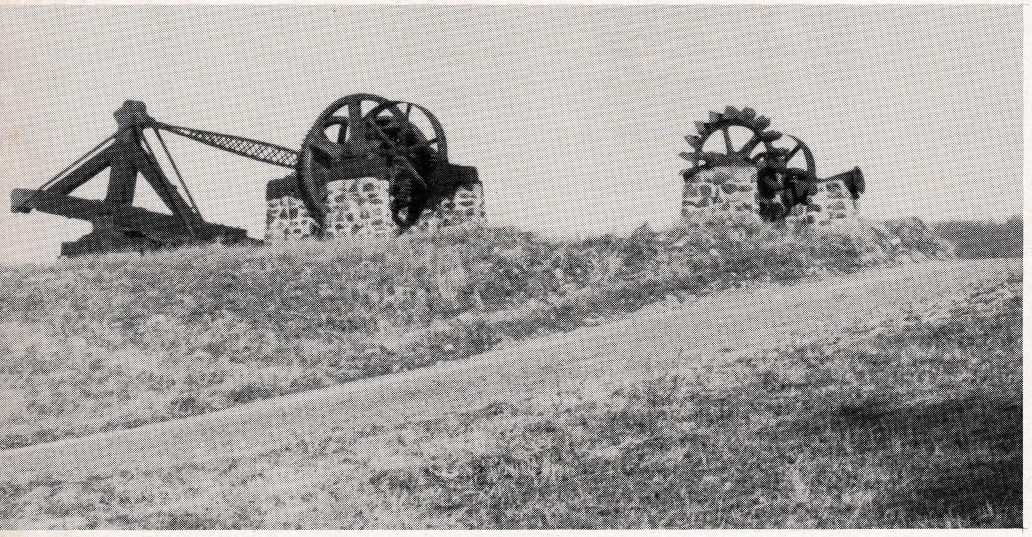
Of the dozen exhibits already completed the writer was especially attracted to the antique mining machinery which has been preserved and re-assembled on a bluff near the village. This walking-beam pumping unit originally was used at the Forest of Dean Iron Mine several miles away near the United States Military Reservation at West Point.

The motive power for the pump is particularly interesting since it is derived from an impulse wheel of early design. The buckets are bolted to the rim of a cast spoked wheel and they are similar to the Pelton bucket shape developed between 1870 and 1880. Though they have a rectangular face contour as contrasted to the modern ellipsoidal shape they are equipped with a center splitter. From this it is possible to deduce how the present day bucket evolved as engineering research

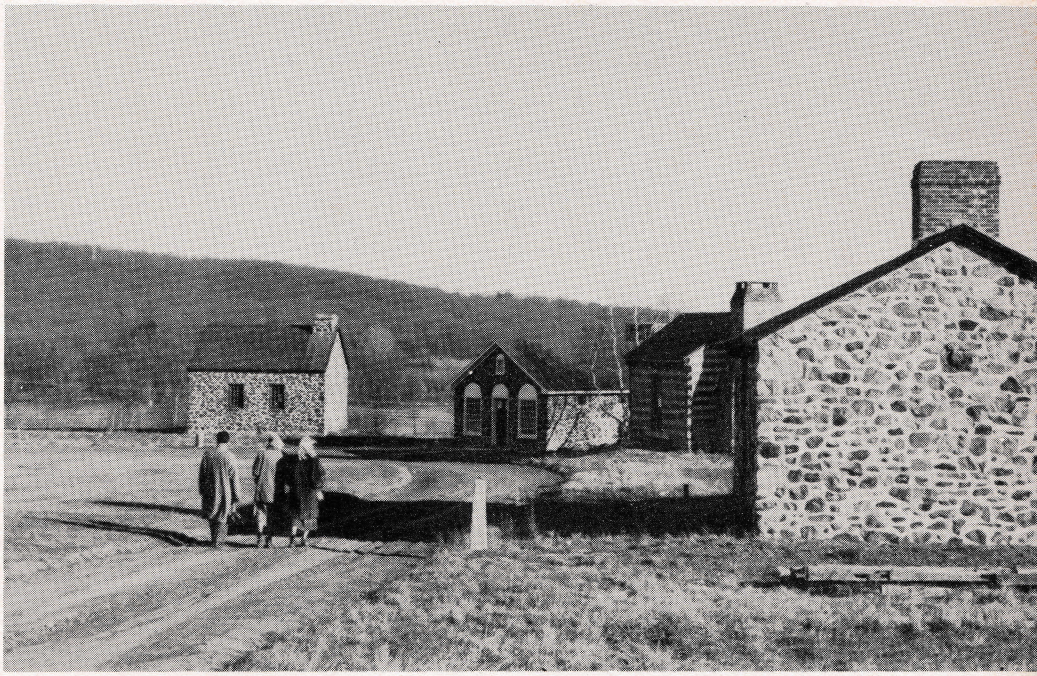
A detailed view of the impulse buckets showing the rectangular face contour. Many of the entrance edges are unfortunately chipped and cracked. The ice in the bottoms of the buckets is frozen rain water.



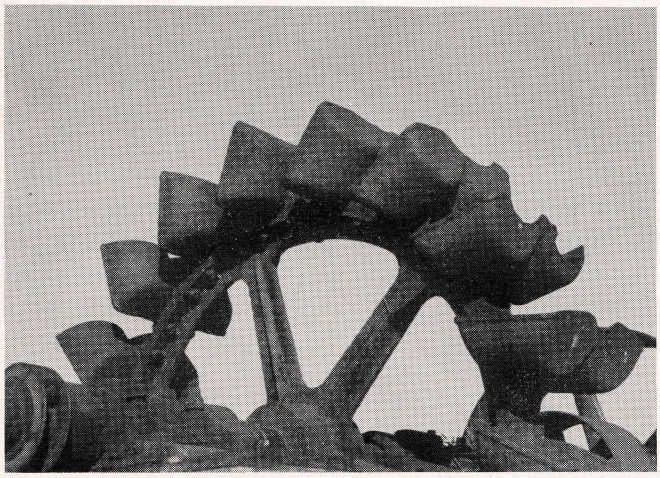
A comprehensive view of the old pumping machinery which has been restored near the village. The drive belt, missing in this photo, is temporarily being protected under cover.



The writer wishes to express his appreciation to Mr. R. W. Smith for providing the historical data on the Forest of Dean Iron Mine machinery. Mr. Smith has recently organized Old Museum Village of Smith's Clove, Inc. to manage and operate the village. It is through the enthusiasm and private resources of Mr. Smith that the restoration of the colonial village has become a reality.



A view of the Old Museum Village oval showing approximately half of the buildings thus far restored. In the background are the rolling hills of Orange County, and, in contrast, a modern electric transmission tower.



A close-up of the impulse wheel proper. Note that the buckets were bolted to the periphery of the cast wheel.

moved toward the best hydraulic conditions for impulse turbines.

At present one or two of the original features, such as the drive belting, are missing from this machinery group. These features will be incorporated as soon as a protective housing is built around the revolving mechanical parts.

It has been recently learned that there is underground water at the pump site and plans are now underway to drill a well and eventually have the old walking beam again pump water via a long vertical wood shaft at its take-off end. The power will, however, of necessity, be provided from a comparatively foreign source for an electric motor will be belted to the impulse wheel shaft to drive all of the machinery. However, the mechanical components have been so faithfully restored and re-erected that if a jet of water were applied to the antique impulse turbine the whole pumping unit would function as it did for many years at the now abandoned iron mine.

The above article is another contribution from Everett Britz, formerly a Junior Engineer Trainee with the Company. Our sincere thanks for his interest and fine presentation of this article.

The antique impulse unit used to drive the mine pump. Note the absence of a needle valve control in the nozzle.

Turbine Topics

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AUGUST, 1950 — 9 — VOLUME 7, No. 4

BEWARE OF THE NEW VIRUS

There is a new virus going the rounds. No one has seen it but every one seems to be feeling the effects of it. There is no real cure at this time. Doctors are working on it.

The sad thing about this new virus is that it creeps up on you. First it eases the pain of getting something for nothing. Then it twists the brain center so that a hope becomes a fact. It blots out all lessons learned at home, at church and in school. It develops so fast that it often acts on the sympathetic nervous system and upsets the glands.

Emotions are stirred up to an extent that the patient feels that everyone owes him a living. That he ought to have everything he wants. In severe cases he believes the boss, the government, his wife, his children or even the priest or pastor are out to keep him from enjoying life without responsibility.

This virus appears to eliminate the positive and accentuate the negative. Everything is going to the dogs. There is no hope except to work for the day when there will be nothing to do except get the monthly check from the government or the company.

There are some doctors who say this virus is the severe scar tissue carried over from the depression of the 1930's. Other experts think we are incapable of meeting the daily grind any more. Some mavericks believe the last war put the skids on our ability to face facts, work for what we want and save for a rainy day.

Research is still going on but the virus has not been isolated. It has an odd way of hitting all people. At first it seemed to hit the weary workers who saw nothing ahead but war, starvation and no chance to get the boss's job.

Lately there is a more ominous turn to events. This virus is attacking some of the people responsible for the industrial progress of the country. There is no telling how far it will go in that direction. If it becomes epidemic we may as well turn out the lights and just sit down and wait for doomsday.

Top management in some cases is rising up in arms. They are pointing to their own ranks where some officials are looking longingly at the pension age limit. At the pay to come. At the day when there will be no more decisions and lots of time to do nothing.

Before this mirage affects the best brains of the country it is probable that a cure will be discovered. Until then it is well to look out for the new virus which is nameless but which may be called "fear of living."

Y. M. C. A. OPPORTUNITIES

The Young Men's Christian Association, York's oldest and largest character-building organization, which has been serving this community continuously since 1869 with a program of physical, mental, social and spiritual activities for men and boys, announces an enlarged fall and winter program.

New courses to be offered in the Night School, which opens October 9, include: Business English, Auditing, Executive Standard Practice and Certified Foremanship. Other subjects taught are: Accounting, Advertising, Builder's Blue Print Reading, Electrical Engineering, Effective Speaking, Foremanship, Human Relations, Psychology, Purchasing, Safety Management, Salesmanship, Sheet Metal Drafting, Shop Blue Printing Reading, Shop Engineering, Supervisory Training and Traffic Management. There are few, if any, industries in York County that do not number among their key personnel graduates of the YMCA educational program.

Boys and their dads, as well, will find that the gymnasium presents a sparkling new appearance after the summer reconditioning. Volleyball, basketball, handball, squash, swimming pool, archery, wrestling and many other program features will appeal to all age groups.

Boys' fees are kept low so that no boy is denied the opportunity to become a member of the Y because of his inability to pay the fees. The Welfare Federation furnishes 15% of the operating cost, and this is used largely to make up the deficit in the boys' department operations.

Many employees of the S. Morgan Smith Company will find activities that meet their needs, as well as an outlet for service to the community by relating themselves to the York Young Men's Christian Association.

COVER

Photo by Assistant Chief Engineer Grant Voaden showing the California-Oregon Power Company's Toketee Power Plant on the North Umpqua River, Oregon. The power plant contains three Smith 70" type E 2 Francis turbines of 18,600 h.p. at 406' net head, 400 r.p.m. Also supplied by the company for the Toketee job were 3 24" Howell-Bunger valves.

UNION LODGE OUTING

Looks as though Howard Bubb, Al Gallatin, and Charley Brehm are playing follow the leader, rather than trying to break the other fellow's balloon.

The Union Lodge held its annual outing at Willow Mills Park the past July 29th. The affair was well attended with approximately a thousand present. George McGuigan, Chairman of the Entertainment Committee, had charge of the outing.

Games for both children and adults were run most of the afternoon. One of the games, in which the contestants attempted to break the balloon tied to the opponents' ankle, was especially amusing to the onlookers. Immediately after the games the Martinez Animal Circus performed for the picnickers. The animals were well behaved, going through their acts competently.

One lucky miss about to collect her prize from the game leader.

The Martinez Animal Circus was especially popular with the younger element.

Part of the crowd watching the door prize drawing and auction.

S. MORGAN SMITH

Athletic Association Picnic

Ernie Stokes, Raymond Strickler, Arthur Comtois, and Paul Pepo in line for a bowl of the delicious ham and bean or chicken noodle soup.

The first Company group-affair of the summer, the S. Morgan Smith Athletic Association picnic, was successfully held on June 24th.

The day proved to be sunny, and the location, the Wolf's Church Grove Picnic Park, cool. The Picnic committee, under the direction of Paul Grissinger, had the activities well planned, with Anna Rose and Lovella Kochenour, both of the Main Office, enthusiastically directing both the children's and the adults' games. In the evening chicken noodle and ham-bean soup was served, following which, bingo was played.

The attendance was very good; about 85 children and 125 adults. (68 of the adults being S.M.S.A.A. members.)

Is Harry Fitzkee showing the kids what to do, or is Harry playing, too?

Mrs. Reuben Rauhauser and Mrs. Ralph Rawhouser, winners of the prizes for guessing the contents of the "Mystery Box."

Be Kind to a Well-nigh Forgotten Man

Suppose we should run across in the "help wanted" column an advertisement like this:

> **MAN WANTED:** Exceptional opportunity for advancement in growing concern producing valves and hydraulic turbines. Applicant must provide his own housing and equipment, or its equivalent, $12,600. Address Turbines, Box 1950.

We should exclaim, in unison, "Hey! Hey! What dumb cluck expects to get help that way?"

Imagine making a job dependent upon a man bringing along with him a kit of tools worth thousands of dollars!

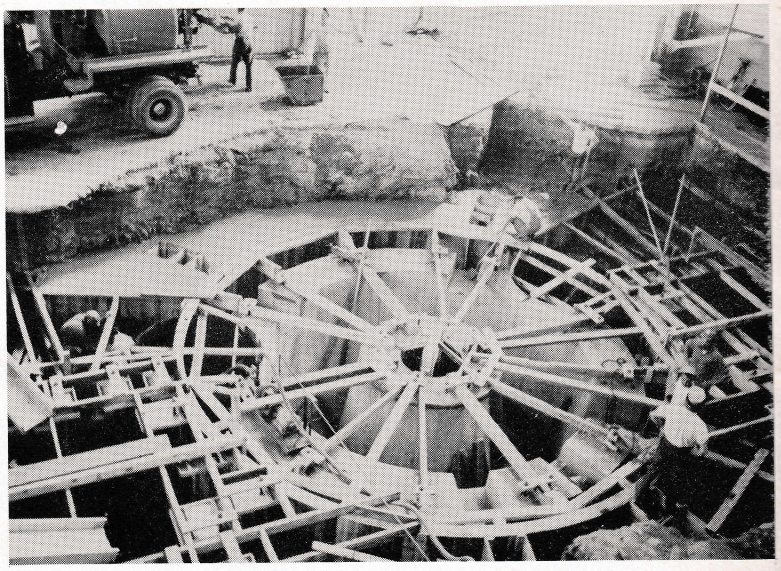
Silly, isn't it? But wait a minute. Maybe it's not so silly. Someone must supply the tools. At the S. M. S. Co. there is $12,600 back of each worker's job. The American custom is for management to induce someone who has saved to join in an enterprise by investing his savings in tools and facilities so that management can assemble workers and get on with the task of producing something people want.

Tools play so important a part in the American way of life! It is estimated that tools do 90 per cent of the job of American industry. They have made possible the reduction of hours of work and the increase of hourly wages. Since 1900 the nation's work energy output has multiplied from 57 billion of horsepower hours to more than 350 billion. Tools are responsible.

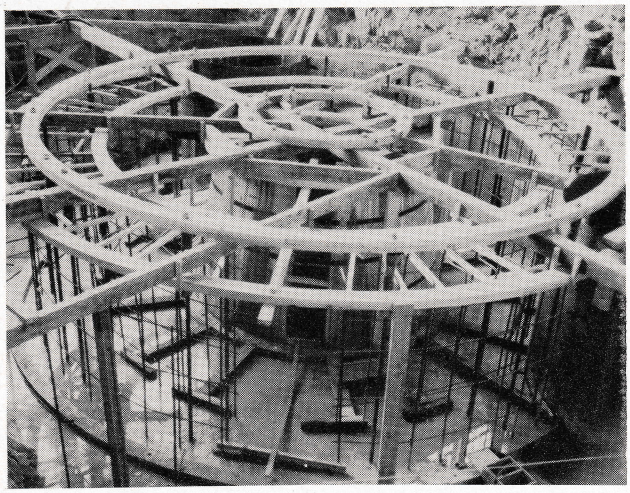
Again, since 1900, the American worker, to the amazement and envy of the entire world, has added 605 hours more of leisure each year. Machines, through mass production, have taken on their iron shoulders these 600 hours—15 forty-hour weeks!

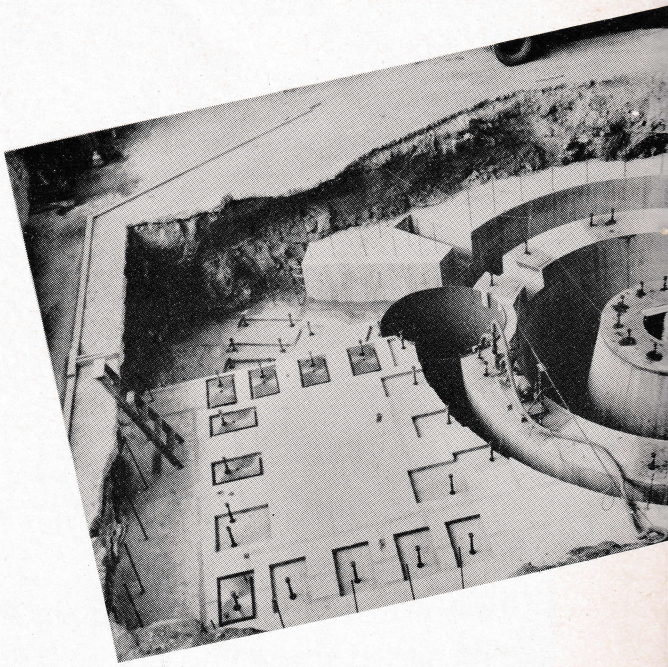
What of tomorrow? Economists warn us that we are in danger of diminishing the supply of this tool money, of risk capital. When a government requires 30 per cent of the income of its people, it is clear there is not so much free money left with which to buy tools. At the same time, heavy taxation makes more difficult the job of getting profits out of the operation with which to pay for the rent of the tools. We have driven down the wages of the tool dollar from 8 to 6 to 3 and 2 cents a year, while increasing out of proportion the wages of labor. Without the free flow of tool money that we have enjoyed in the last half century, the prospects are not as good for a continuation of less hours of work, higher rates of pay.

NEW 40 FOOT BORING



The retaining walls being readied for final pouring of the mill bed concrete base.



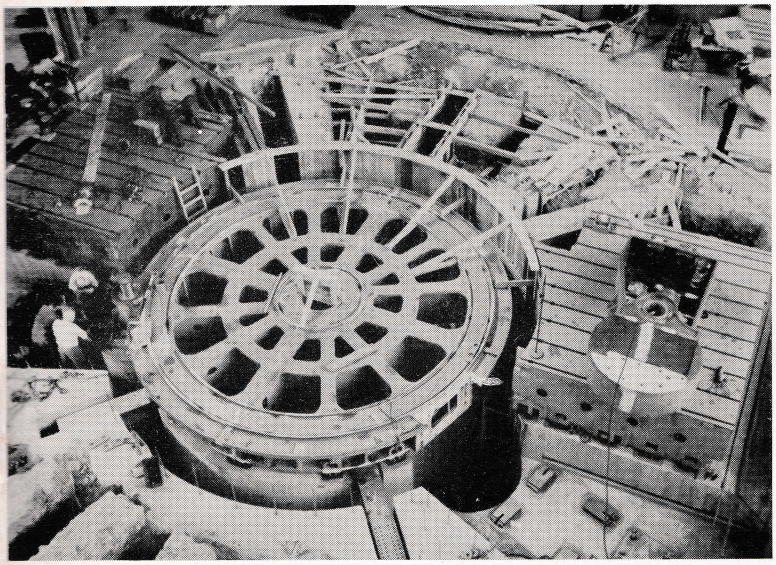


Upper left: Ed Altland and Chancy Neff inspecting the excavation sometime after the project was started Feb. 15, 1950.

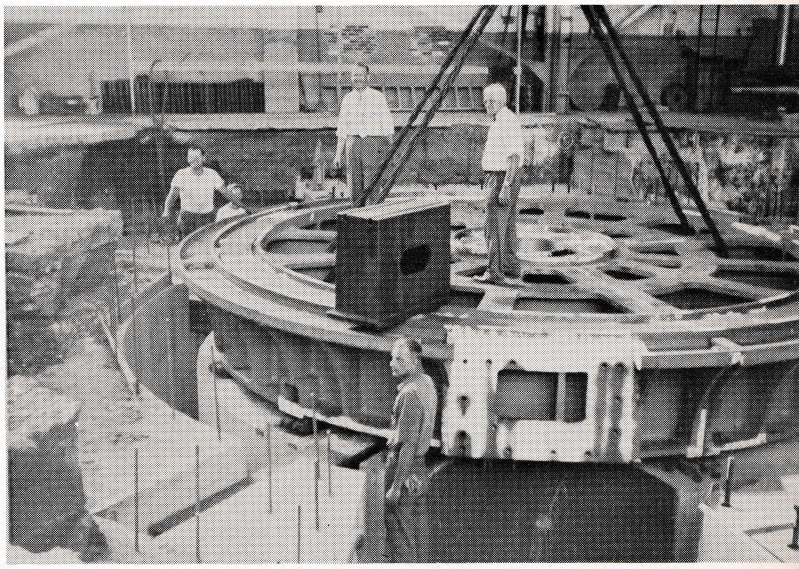
Middle left: The frame constructed for pouring the concrete mill base.

Lower left: Ed Rogers inspecting the concrete base May 19th.

G MILL INSTALLATION

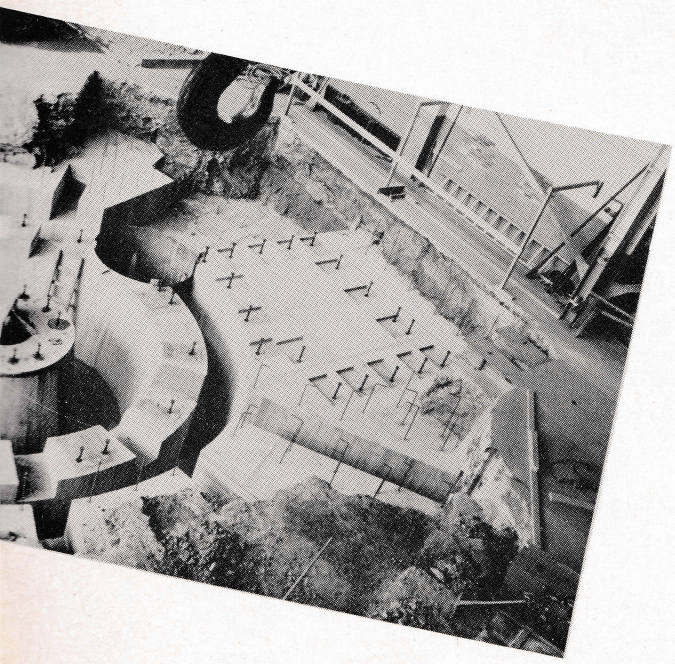


A view from the overhead crane showing the boring mill bed in place.

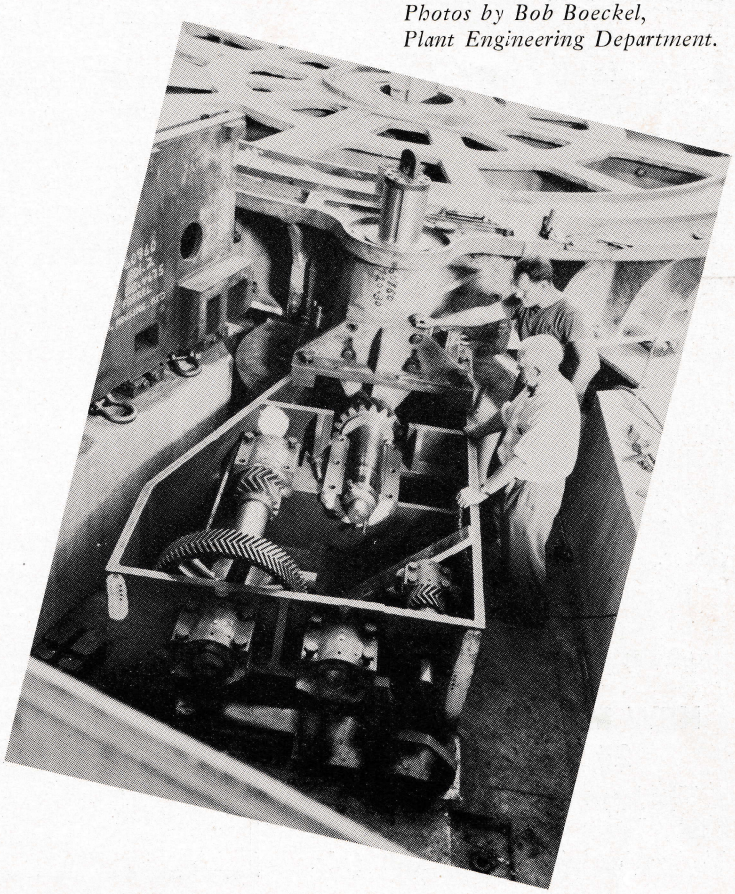


Ed Rogers, plant engineer, and Kurvin Strayer, standing on the boring mill bed as it is being lowered into position. Edgar Stover, Harold Strayer, and George Pepo assisting location.

Photos by Bob Boeckel, Plant Engineering Department.



A view of the concrete base as it appeared June 19, 1950.



Kurvin Strayer, master mechanic, and son Harold looking over the gear box for the 40 ft. Boring Mill.

UP and DOWN the AISLE

On Saturday, August 12th, Evelyn Dolores Snider, daughter of Mr. and Mrs. Charles Snider, and Ernest Johnson were united in marriage by Reverend Gresh. The ceremony, held at six o'clock in the evening at the bride's home, was solemnized by an exchange of rings.

Following the lawn reception the couple left for a week's bridal tour to the New England states and Niagara Falls. On their return, the two will reside at 233 North Washington Street, Gettysburg. Ernie is a draftsman in the Design Department.

* * *

Miss Mary E. Crossley and Charles Smith solemnized their marriage in an early afternoon ceremony July 1st at Williamsport's St. Luke's Lutheran Church. After the double ring ceremony the pair left for a tour of the New England states.

The two are presently living at 611 West King Street, York. Smitty works as a draftsman in Design.

NEW MEMBERS OF THE 25 YEAR CLUB

The latest member of the 25 Year Club, James W. Tarbert, received his service pin August 3rd. (Mr. Jessop, president of the club, made the presentation.) Jim first came to Smith's in 1925 as an apprentice machinist on Floor 1. In April of '46 Jim was made working foreman in the laboratory, his present position.

* *

Ralph M. Fissel was officially presented on the 10th of July with his green service pin upon completion of his 25 years of company service.

Ralph joined the Company in July of '25 as an electrical apprentice. Completing his training in January of '36 Ralph was assigned as an electrician to the electrical department. Currently he is the electrician on the night shift.

Congratulations are in order for the following proud parents:

Mr. and Mrs. Wm. McCracken (Mrs. McCracken is the former Rebecca McCracken of the Cost Department) whose second child, William, Jr., was born at the York

Mr. Jessop, president of the 25 Year Club, Jim Tarbert, and Mr. Rees, General Superintendent, immediately after Jim was presented with his 25 year pin.

RALPH M. FISSEL

CITIZENSHIP CHECK LIST

Are you a registered voter?

Did you vote in the last primary? In the last general election?

Do you get out and work for your political organization?

Do you maintain close contact with your local public officials?

Have you ever offered to serve in public office, or on any public board or commission?

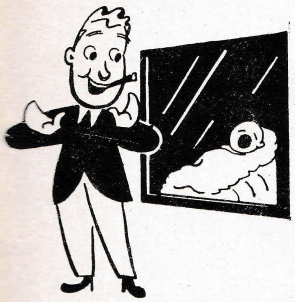
Do you know your elected representatives in Congress? Do you write, call, or talk in person with them, and let them know your views on important national issues?

Do you keep yourself thoroughly well informed on current public questions?

Do you make it a point to find out how your elected representatives vote on important legislation?

Do you discuss community and national affairs with the editor of your newspaper, the program director of your radio station, your minister, employees, and school teachers?

Do you oppose making demands on the Federal Government for things which your community can do for itself?



Hospital. The baby weighed 6 lbs., 11¾ ounces.

Mr. and Mrs. Frank Gemmill blessed with a 7 lb., 9 ounce sixth child at the York Hospital. The baby, the Gemmills' third girl, has been named Wenty Rae. Frank is a chipper in Plate.

Mr. and Mrs. Clarence Fahringer whose third child, Gene Marie, was born at the West Side Osteopathic Hospital. Gene Marie weighed 8 lbs., 8 ounces. Clarence works in Plate.

Mr. and Mrs. Warren Whippen, on the birth of their second child Marie Alice. Marie Alice weighed 7 lbs., 3 ounces at her birth at York Hospital. Warren is an engineer in the Engineering Department.

Mr. and Mrs. George Pepo whose third child, second daughter, was born at York Hospital. The baby, named Jean Suzanne, weighed 7 lbs., 1¾ ounces. George is a rigger on Floor 1.

Mr. and Mrs. Waldemar Senft, on the birth of their second child, Waldemar Herbert II. The child, their second son, weighed in at 8 lbs., 14½ ounces at the York Hospital. Wald is employed in Personnel.

Mr. and Mrs. Woodrow Smith, whose second child, first son, Greg Lawrence, was born at the York Hospital. At his birth Greg weighed eight pounds, nine ounces. Woody is employed in the engineering department.

Mr. and Mrs. Fred Boyd on the birth of twin sons, Donald and Thomas, at the York Hospital. Donald weighed 5½ lbs., while Thomas weighed 6 lbs., 1 ounce. The twins are the Boyds' fifth and sixth children. Fred is an assembler on Floors 3 & 4.

Mr. and Mrs. Wayne McWilliams, whose first child, a son, Stephen Philip, was born at the York Hospital. The baby weighed 6 lbs., 6 ounces. Wayne is an apprentice machinist.

Mr. and Mrs. Grant Voaden on the birth of their first child, a son, named John Clayton. The boy weighed 6 lbs., 12½ ounces at his birth in the York Hospital. Grant is Assistant Chief Engineer.

* * *

RECALLED TO ACTIVE SERVICE

Dick Bramhall, the first Smith man called back to active duty, left on Aug. 2nd to report at his navy

RICHARD BRAMHALL

post. Dick, a sales engineer, is presently in the Personnel division of the Philadelphia Navy Yard.

Insurance Claims Paid

FROM JUNE 1, 1950 TO AUGUST 1, 1950

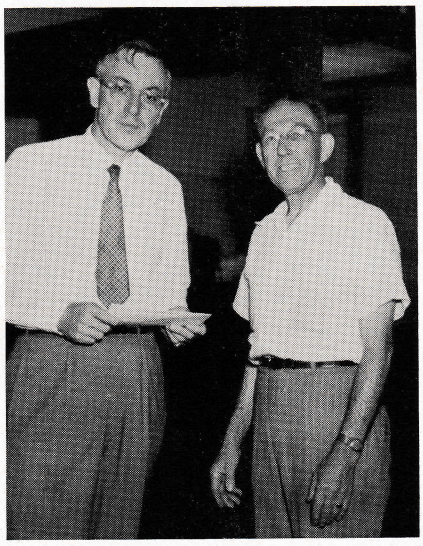
Name	Amount
Wilbert D. Beaverson	$ 118.94
Edwin Beck	44.00
Paul J. Billet	314.00
Francis Bowker	79.00
Gordon Bowman	5.00
Harry Boyer	44.86
Charles Detter	16.29
George L. Dietz	25.00
Leland S. Doll	5.00
William Enterline	60.00
Thomas Faircloth	105.00
Kenneth R. Frey	30.00
Stewart G. Grove	29.71
Reuben E. Gunnet	148.00
H. I. Hartman	25.50
Charles R. Hoats	129.00
Walter L. Hockensmith	8.00
Clyde Z. Hoffman	170.57
Walter Hollingshead	240.00
Lester L. Housman	10.00
Betty Jacoby	120.00
William T. Jamison	10.00
Chester E. Kemp	20.00
George F. Klunk	293.74
George C. Kohler	36.50
Walter Krebs	144.00
M. E. Leppo	72.00
Duncan D. McArthur	61.43
William T. McArthur	48.00
Rebecca McCracken	125.35
Paul O. McIntire	50.72
Carroll L. Miller	234.00
William Minnich	49.14
Curvin W. Ness	51.00
George F. Pepo	25.00
George E. Petry	29.14
Frank S. Pope	216.00
Jacob Portner	60.71
Lawrence C. Reever	24.50
Chester O. Reisinger	60.00
Donald Rentzel	10.00
Russell Rinehart	110.00
Lloyd Ruppert	18.75
Harry L. Shry	60.50
Charles Snyder	60.00
Roy C. Sprenkle	4.00
Kenneth H. J. Taylor	14.07
Donald R. Thompson	138.71
Raymond D. Thompson	116.00
Theodore J. Unger	201.24
Warren G. Whippen	109.35
Edward J. Wills	19.50
Charles W. Young	60.55
Total	$4,261.77
Total amount paid in claims from July 1, 1949 to July 1, 1950	$59,280.75
Total amount paid in claims from July 1, 1950 to August 1, 1950	$ 2,087.69

Retirements

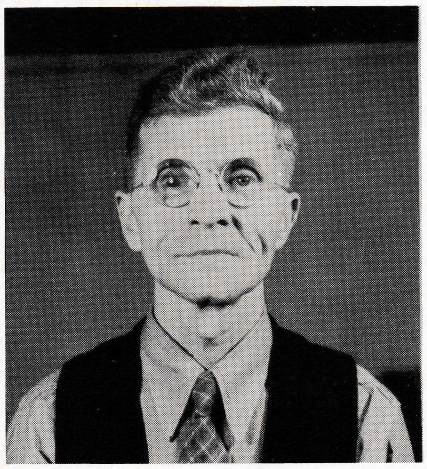
Miss Miller acquainting Miss Coulson with her new nursing duties.

On June 30th the first Company woman employee, Miss Mabel Miller, was retired. Miss Miller had seen twelve years of service at Smith's as nurse, having come here June 6th, '38.

Miss Miller was born in Philadelphia and lived in that city until shortly after she completed her school requirements, at which time she moved with her family to York. While living in York Miss Miller took her nurses' training at York Hospital, graduating in 1912. Her subsequent nursing career was varied, including employment at several hospitals, private homes, and an enlistment in the U. S. Army, Nurse Corps, from Oct. 17, 1917 to Jan. 20, 1920.



Mr. Beauchamp Smith presents George Leicht with his first pension check.



JAMES E. TARBERT

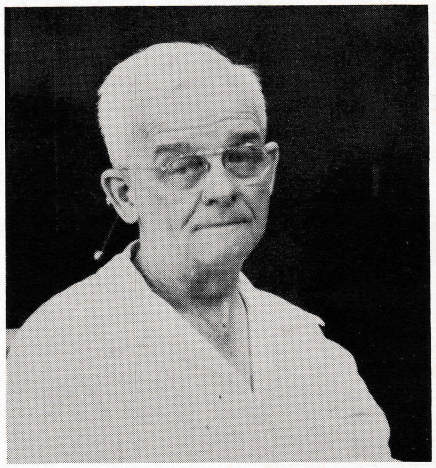
George H. Leicht, assistant foreman of the weld shop, ended his Smith employ the past August 1st. George put in 21 years of service with the company starting at Smith's Nov. 12, 1929 as a boilermaker.

* * *

Also retired, but in the early spring of this year, were James Tarbert and Victor Boyer. Jim came to Smith's August 1st of 1910 from the old Pullman Auto. Co. of York. He was placed in the Tool Crib department working as a stock-keeper. In 1942 Jim was made a Tool Crib machine operator, working at this until his retirement on March 31, 1950.

* * *

Vic Boyer started working with Hench & Drumgold Co., not coming to Smith's until October of 1917. Victor worked at Smith's as a general factory laborer until his retirement on March 31.



VICTOR BOYER

NEW HOSPITALIZATION COVERAGE

Beginning August 14th the following changes were made in the Group Insurance Plan:

EMPLOYEE

Daily Benefit was increased up to **$8.00 per day.**

Miscellaneous Fees were increased up to **$80.**

When you have a Laboratory or X-ray Examination

You will be paid the following benefit if you undergo a laboratory or X-ray examination on order of a physician in the course of treatment on account of a non-occupational accident, or sickness for which you are not entitled to benefits under any workmen's compensation law:

An amount equal to the charges for the examination up to a maximum of $25.00.

If you undergo more than one examination, the benefit is payab'e for each except that $25 is the maximum payable for all examinations as a result of injuries sustained in one accident or as a result of one disease.

The benefit is not payable for X-ray examinations without film nor for examinations in connection with any dental work or procedure, pregnancy, childbirth or miscarriage, or any injury or disease for which you are entitled to Hospital Expense Benefits.

DEPENDENT

Daily Benefit was increased up to **$8.00 per day.**

Miscellaneous Fees were increased up to **$80.**

When your dependent has a Laboratory or X-ray Examination

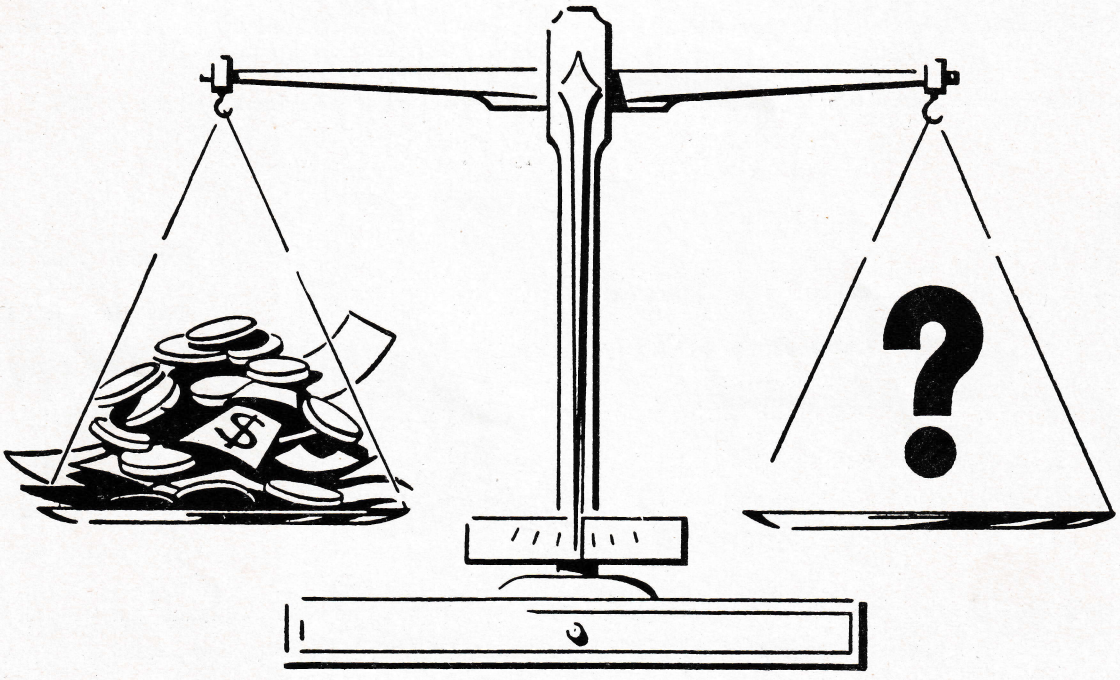
You will be paid the following benefit if your dependent, as defined in General Information, undergoes a laboratory or X-ray examination on order of a physician in the course of treatment on account of a non-occupational accident, or sickness for which your dependent is not entitled to benefits under any workmen's compensation law:

An amount equal to the charges for the examination up to a maximum of $25.00.

If your dependent undergoes more than one examination, the benefit is payable for each except that $25 is the maximum payable for all examinations as a result of injuries sustained in one accident or as a result of one disease.

The benefit is not payable for X-ray examinations in connection with any dental work or procedure, pregnancy, childbirth or miscarriage, or any injury or disease for which you are entitled to Dependents Hospital Expense Benefits.

WHAT IS MONEY?



Money is a basis of exchange.

What Money Is Not

Money is not wealth: It cannot feed, shelter or clothe man. In itself it brings no physical comfort.

Money is not capital: Capital consists of those things used by man in the production of goods and services; things such as land, buildings, machinery, and materials.

Money is not a fixed measure of quality or quantity: The $5,000 automobile of 1910 was greatly **inferior** to the $1,000 automobile of 1940; the $10,000 house of 1910 was greatly **superior** to the $10,000 house of 1947. In 1932 a dollar bought five times as much wheat as it did in 1920.

Money has no fixed future "value" in terms of goods and services: Money not spent at the time it is received, may bring either more or less goods and services when spent at some future date.

Money is not a claim against goods or services (and vice versa): Its exchange depends upon willingness to exchange on the part of the owners of particular goods and services desired by the owners of the money.

Money is no longer (in the United States) a claim against gold when the claim is made for the purpose of protecting the value of money. This privilege was suspended in 1933 when the country discontinued the gold standard.

Modern money in itself is **not** a goods or a service: It is the receipt we hold between the time we give something up and the time we receive something else in its place.

This is the second in a series of 10 articles dealing with money and its uses in our economic system. The articles are based on the book "Money," written by Fred G. Clark and Richard Stanton Rimanoczy and published by D. Van Nostrand Company. The American Economic Foundation (295 Madison Avenue, New York City) has granted permission to publish the series.

Seventeen Instead of One

Add seventeen fund appeals to the pyramiding number now conducted. The result would be catastrophic—an average of almost one appeal a week for funds. Unbelievable . . . but true! A condition that could spell disaster for private charity in York and York County. The community would simply rebel!

Seventeen agencies, guided by sagacious leadership, have chosen—rather—to raise the funds under the symbolic Red Feather and to devote all of their own agency efforts to service.

The Girl Scouts, Boy Scouts, YM, YW, and the rest of the seventeen agencies have visualized the confusion that could result from conducting their own fund raising campaigns. Their primary interest is service to the community—not the collection of funds.

There is no competition for funds among York's 17 Welfare Federation agencies. Fund allocations are made to them on the basis of service. Released from the responsibility of financing, and with allocations predicated on quality of service, Red Feather agencies are able to offer their best to York County.

The glamour, popularity and appeal of York County's seventeen Community Chest participating agencies are shared equally in unselfish devotion to the community they are dedicated to serve.

These advantages have kept Welfare Federations in operation since they originally formed and no community in which such a federation was campaigning for more than $100,000 has ever discontinued its chest for more than 2 years without heartily embracing its reorganization with more and stronger federation.

Federation of health and welfare campaigns is limited only by the desires of the contributing public and their willingness to give it their financial support.

Your Community Chest, The York Welfare Federation, has one campaign instead of seventeen! The people are its founders and its contributors.

ONE INSTEAD OF SEVENTEEN